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EXAMINER

COLE, LAURA C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1744

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/600,902

Examiner

Laura C Cole

Applicant(s)

LAKER, KEITH

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the

specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may

point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

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- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

2. Claims 3 and 5 are objected to because of the following informalities:

Claim 3, "bor" is misspelled and should be "bore."

Claim 5, "o" is misspelled and should be "or."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 4 discloses that the "pig may be adapted to act as a means for the mechanical application of a coating..." It is unclear to one skilled in the art how the blades are to be adapted in such a way to apply a coating without the next blade removing the coating.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "watermelon shaped" is unclear as a watermelon may be round, elliptical, or many other possible shapes. Further, the blades in Figures 1 and 2 have a number of slots thereby interrupting the outer circumference that defines such "watermelon shape."

7. Claims 21-25 are rejected because they are dependent on Claim 20. Claims 21-25 are assumed dependent on Claim 20 by the examiner. Claims 21-25 were dependent of Claim 14 that has been deleted in the Preliminary Amendment filed on July 24, 2000.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5-7, 9-10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Muirhead, USPN 3,939,519.

Muirhead discloses a cleaning plug that can be considered a pig since a pig serves to clean the inside of a pipeline, as does the cleaning plug. The plug that Muirhead discloses allows for any number of discs. The discs that Muirhead discloses are "scraper discs" that share the same definition as a blade. Column 2, Line 60 of Muirhead allows for slits that will cause the plug to rotate along the longitudinal axis.

Column 4, Lines 43-45 and 61-63 of Muirhead discloses that a differential fluid pressure builds up which encourages forward movement when fluid is traveling through the tubular as required in Claim 1.

Muirhead discloses in Column 2, Lines 53-59 a central core body that supports a plurality of discs. Muirhead Figure 5 discloses a central core body (12) that is considered elongate and having an outer diameter substantially less than the internal diameter of the tubular (10). The discs that Muirhead discloses are "scraper discs" that share the same definition as a blade.

Muirhead discloses in Column 2, Lines 32-47 a plug that meets the requirements of Claim 3 "wherein the blades are designed to scrape the internal surfaces of the tubular bore...upon passage." The discs that Muirhead discloses are "scraper discs" that share the same definition as a blade.

Figures 4, 8, and 9 of Muirhead display a "turbine or impeller like" profile with reaction surfaces (18), (25), and (26). Further, Column 4, Lines 43-45 and 61-63 of Muirhead discloses that a differential fluid pressure builds up which encourages forward movement when fluid is traveling through the tubular as required in Claim 5.

Muirhead Column 4, Lines 45-48 provides for an "opening means through the plug provides passage of...the fluid to agitate and advance foreign matter...forward of the plug." Muirhead Figures 6 and 6a further provide for openings (25), (26) and (27) in the cleaning discs as required in Claim 6.

Muirhead Column 4, Lines 45-48 provides for an "opening means through the plug provides passage of...the fluid to agitate and advance foreign matter...forward of

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the pig.” Figures 4, 8, and 9 of Muirhead disclose “void areas” (A1) – (A4) that permit the flow of fluid.

Muirhead Column 2, Lines 66-68 and Column 3, Lines 1-3 disclose that “each disc should be sufficiently larger than the inside of the tube” as required in Claim 9. Muirhead Figure 5 further demonstrates that each of the discs (d1-d7 in this case) although having “a greater diameter than the internal diameter of the tubular” are “sufficiently flexible to allow entry and passage of the pig through the tubular” as required in Claim 10.

Muirhead Column 6, Lines 25-29 disclose a “plastic material...lends itself well to the possibility of molding minute abrasive particles such as communitated silicon carbide or aluminum oxide.” Further in Muirhead Column 10, Lines 1-3, it is disclosed that a “high-density polyethylene for high scraping efficiency...minimizing damage to said tubes and for long life,” as required in Claim 17.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead as applied to claims 1-7 above, and further in view of Knapp, USPN 4,603,449.

Knapp discloses a pig body with scraper discs, as does Muirhead. Knapp allows for scraper discs with varying diameter, Column 3, Lines 56-60 and Column 4 Lines 1-

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10. Knapp discloses a smaller diameter disc as a “leading” disc that “will more evenly distribute the wear.” The discs that Knapp and Muirhead disclose are “scraper discs” that share the same definition as a blade. Further, Figure 1 of Knapp discloses discs that vary in size. It is obvious to one skilled in the art to desire variable scraper disc diameters to have a pig that distributes the wear to increase the longevity of the pig.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead, USPN 3,939,519.

Muirhead Column 6, Lines 25-29 disclose a “plastic material...lends itself well to the possibility of molding minute abrasive particles such as communitated silicon carbide or aluminum oxide.” It would be obvious to one having ordinary skill in the art to alter the proportion of materials or composites to provide for various tubing materials, for various chemical sludge that needs cleaning, and to provide for various harnesses may be required to clean the sludge from the tube.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead as applied to claim 1 above, and further in view of Kidd, USPN 3,480,984.

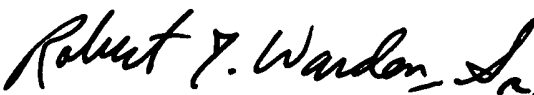
Kidd discloses a pig apparatus that uses cup shaped elements instead of scraper discs that Muirhead discloses. However these cup shaped elements act in the same manner as the scraper discs to remove deposits from a pipeline. Kidd discloses a nose fitting (17) which allows the pig to be supported on a pipe string. It would be obvious to one skilled in the art to add a nose-fitting device to the pig design of Muirhead so that it would be supported on a pipe string for support and retrieval.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday - Friday, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8772 for regular communications and (703) 873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LCC
July 26, 2002


ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700